

FIGURE 1

(Prior Art)

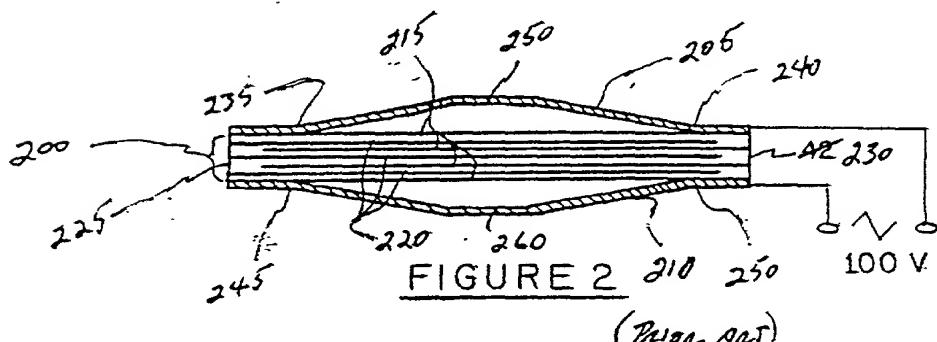


FIGURE 2

(Prior Art)

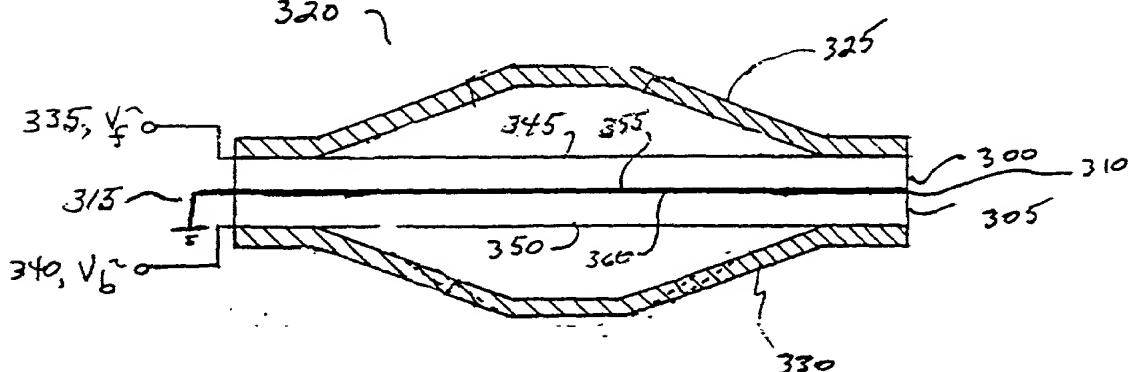


FIGURE 3

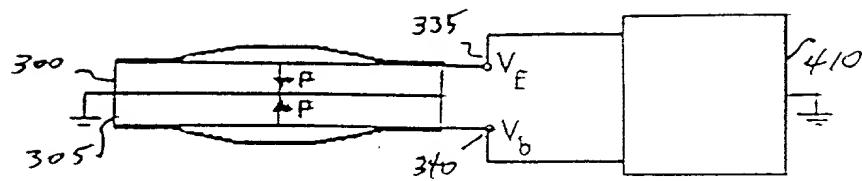


FIG. 4A

Monopole (in phase, same amplitude), $V_b = V_f = V_m$, $\varphi = 0$

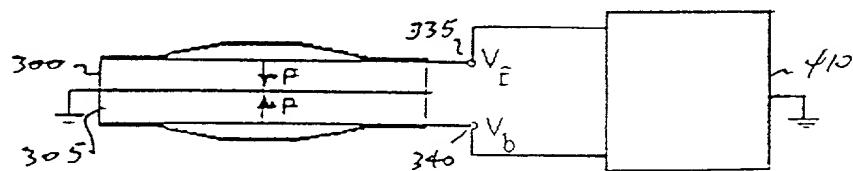


FIG. 4B

Dipole (out of phase, same amplitude), $V_b = -V_d$, $V_f = V_d$, $\varphi = \pi$

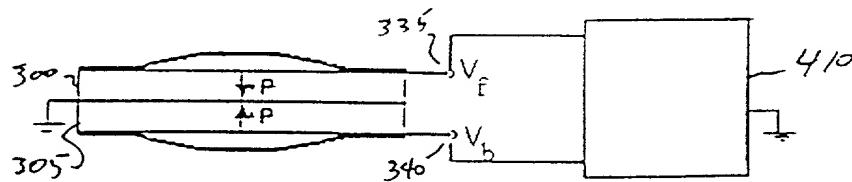


FIG. 4C

Cardioid, $V_b / V_f = (1-R) / (1+R)$, where $R = TVR_m / TVR_d$, $0 < \varphi < \pi$

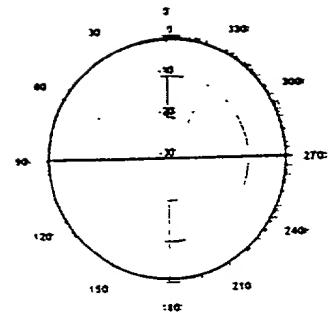
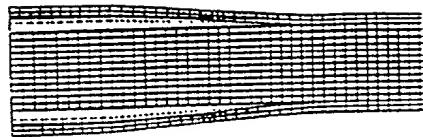


FIG. 5A Monopole mode

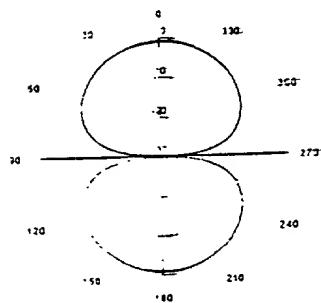
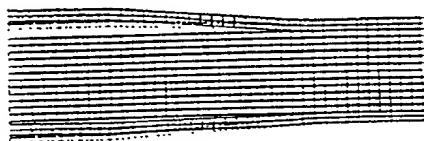


FIG. 5B dipole mode

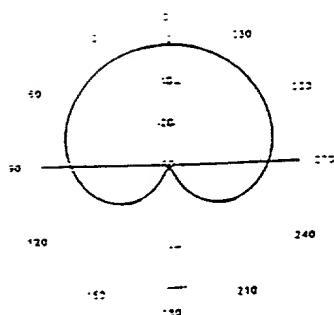


FIG. 5C cardioid mode. $V_b / V_t = (1-R) / (1+R)$, where $R = TVR_m / TVR_d$

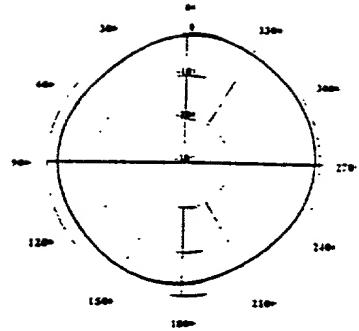


FIGURE 6A

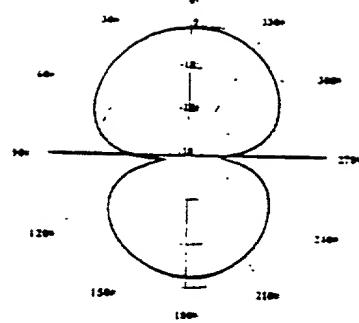


FIGURE 6B

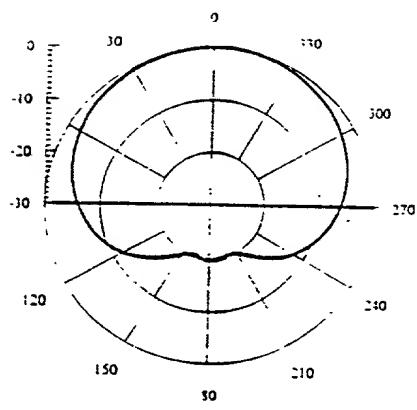


FIG. 7A

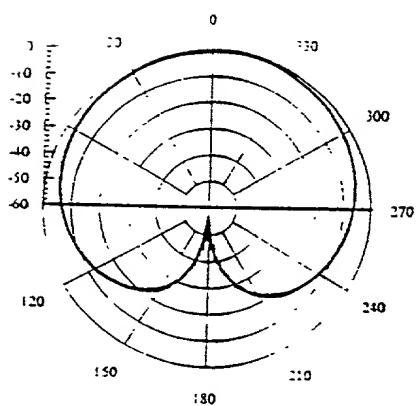


FIG. 7B

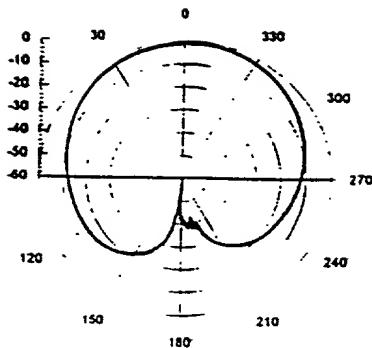


Figure 8A $V_f = 100$ V, $V_b = 55$ V, $\phi = 237^\circ$

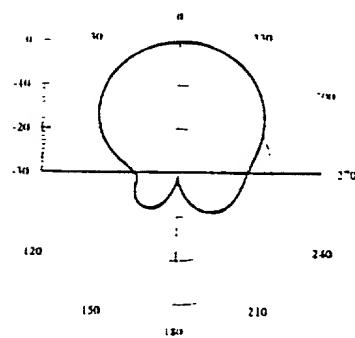


Figure 8B 20kHz, $V_f = 100$ V, $V_b = 38$ V, $\phi = 268^\circ$

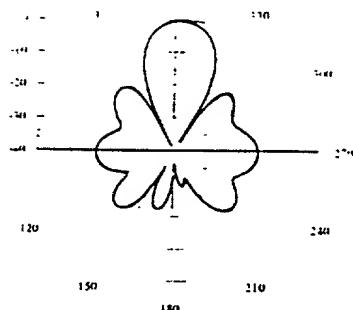


Figure 8C 80kHz, $V_f = 98$ V, $V_b = 100$ V, $\phi = 332^\circ$

1900

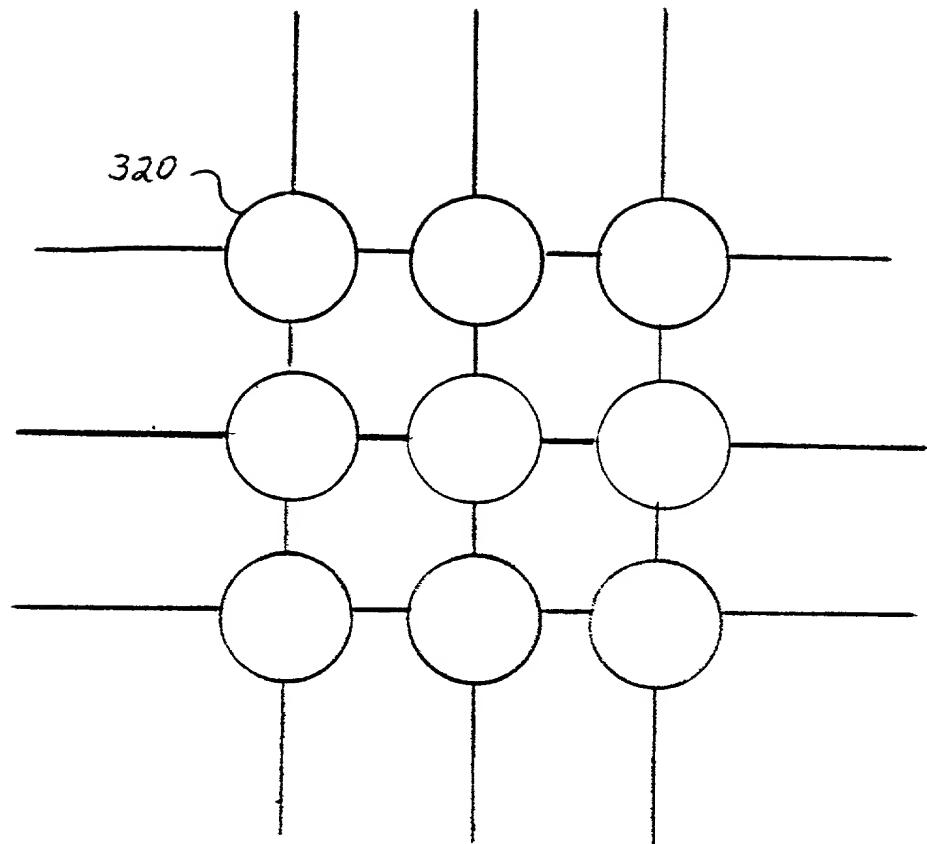


FIG. 9